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10/032,741	10/22/2001	Shin-Ichi Yamaguchi		6398

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William Squire, Esq.
Carella, Byrne, Bain, Gilfillan, Cecchi,
Stewart & Olstein
6 Becker Farm Road
Roseland, NJ 07068-1739

EXAMINER

GOFF II, JOHN L

ART UNIT

PAPER NUMBER

1733

DATE MAILED: 09/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/032,741

Applicant(s)

YAMAGUCHI ET AL.

Examiner

John L. Goff

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2, 4 and 5 is/are pending in the application.
- 4a) Of the above claim(s) 5 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 2 and 4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

1. This action is in response to Amendment A filed on 6/27/03. All previous objections to the specification have been overcome. All previous rejections under 35 U.S.C. 112 have been overcome. In view of applicants arguments the previous rejection of claims 2 and 4 over Loose in view of Bliss is withdrawn.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Election/Restrictions

3. Applicant's election of Group I, claims 1-4, in Paper No. 5 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Specification

4. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

5. The disclosure is objected to because of the following informalities: On page 2, line 3 delete "laminated film" and insert therein - - laminate - -. This change is required because as applicant has argued in paper no. 5 a film is a thin skin or membrane, and thus, a film cannot be a laminate of a rubber sheet and another substrate. This change should be carried out for any other

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instances in the specification. On page 2, line 7 delete “laminated” as the solid rubber sheet and seamless substrate film are not yet adhered to one another. This change should be carried out for any other instances in the specification. On page 2, line 17 delete “laminated cylinder” and insert therein - - cylindrical composite - - to reflect Amendment A. This change should be carried out for any other instances in the specification. On page 2, line 18 delete “room” and insert therein - - chamber - - to reflect Amendment A. This change should be carried out for any other instances in the specification.

Appropriate correction is required.

Claim Objections

6. Claim 4 is objected to because of the following informalities: In claim 4, line 1 delete “The manufacturing method of the belt” and insert therein - - The method of manufacturing a belt - -. Appropriate correction is required.

Claim Rejections - 35 USC § 103

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood (U.S. Patent 5,733,399).

Wood discloses a method for manufacturing a drive belt. Wood teaches the method comprises providing an expandable mandrel, i.e. core mold expandable by pneumatic pressure, placing on the mandrel a lay-up comprising a top elastomer, i.e. rubber, sheet, a barrier layer, e.g. plastic or elastomer film, a tooth stock elastomer sheet, belt cords, and a top tooth facing fabric, placing the expandable mandrel within an outer casing mold, and applying heat and pneumatic

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pressure to vulcanize the elastomer sheets and adhere all of the components together (Figures 1 and 7-10 and Column 1, lines 30-34 and Column 2, lines 62-65 and Column 5, lines 43-45 and Column 6, lines 65-67 and Column 7, lines 1-7). Wood does not specifically recite the ends of each component as abutted together. However, it appears it is intrinsic to Wood that the ends are abutted together to form an endless drive belt having the same dimensions, e.g. thickness, throughout. In any event it would have been obvious to one of ordinary skill in the art at the time the invention was made to place the ends of the components on the mandrel taught by Wood in an abutting relationship to form an endless drive belt having accurate dimensions throughout. Further, Woods does not specifically recite forming the lay-up prior to placing the components on the mandrel. However, it would have been well within the purview of one of ordinary skill in the art at the time the invention was made to form the lay-up prior to placing the components on the mandrel or by directly placing the components on the mandrel as both techniques were well known and obvious to one in the art for forming a belt lay-up and only the expected results would be achieved.

8. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wood as applied above in paragraph 7, and further in view of Fujiwara et al. (U.S. Patent 5,630,770).

Wood teaches all of the limitations in claim 4 as applied above except for a teaching of forming additional coating layer(s) on the outer surface, i.e. top tooth facing, of the endless belt. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form on the outer surface of the endless drive belt taught by Wood a coated layer of silicon or fluorine resin as it was well known in the art to apply a coating of silicon or fluorine resin to the

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outer surface of an endless drive belt to reduce both the coefficient of friction of the outer surface and wear on the outer surface as shown for example by Fujiwara et al.

Fujiwara et al. disclose coatings, e.g. silicon or fluorine resins, applicable to the outer surface of an endless drive belt for reducing both the coefficient of friction of the outer surface and wear on the outer surface (Column 1, lines 7-12 and Column 2, lines 27-32 and Column 8, lines 49-57).

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ndebi et al. (U.S. Patent 6,217,964) in view of Bliss (U.S. Patent 3,964,846).

Ndebi et al. disclose a method for manufacturing an endless, seamless image transfer belt. Ndebi et al. teach a method comprising providing a mandrel, placing on the mandrel a lay-up comprising an elastomer base ply, i.e. rubber sheet, and an endless, seamless plastic film with both substrates having their ends in an abutting relationship, wrapping the mandrel in a plastic sheet, i.e. outer casing mold, applying heat and pressure to vulcanize the elastomer sheet and adhere the elastomer base ply to the plastic film to form an endless, seamless belt, and unwrapping the outer plastic sheet to remove the belt (Figures 2, 6, and 7 and Column 5, lines 53-60 and Column 6, lines 6-9, 20-22, and 44-48). Ndebi et al. do not specifically recite using a outer casing mold having a pneumatic chamber for applying pressure. However, it would have been well within the purview of one of ordinary skill in the art at the time the invention was made to use as the outer casing mold taught by Ndebi et al. an outer casing mold having a pneumatic chamber as this was a well known alternative in the art for applying vulcanization pressure when vulcanizing a belt as shown for example by Bliss and only the expected results would be achieved. Further, it would have been obvious to one of ordinary skill in the art at the

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time the invention was made to use as the outer casing mold taught by Ndebi et al. an outer casing mold having a pneumatic chamber as shown for example by Bliss as the mold taught by Bliss is reusable as opposed to the disposable wrapping taught by Ndebi et al. It is further noted Ndebi et al. do not specifically recite forming the lay-up prior to placing the components on the mandrel. However, it would have been well within the purview of one of ordinary skill in the art at the time the invention was made to form the lay-up prior to placing the components on the mandrel or by directly placing the components on the mandrel as both techniques were well known and obvious to one in the art and only the expected results would be achieved.

Bliss is directed to an apparatus for manufacturing endless belts, e.g. power transmission belts. Bliss teaches a cylindrical vulcanizing mold comprising an inner core mold and an outer casing mold. Bliss teaches forming a belt sleeve comprising at least one rubber layer and at least one tensile reinforcement layer (substrate with small stretchability), positioning the belt sleeve around the inner core of the vulcanizing mold, closing the mold, and applying heat and pneumatic pressure to vulcanize the rubber layer and form an endless belt (seamless cylinder) (Figures 1 and 2 and Column 1, lines 36-41, 43-45, and 48-50 and Column 3, lines 37-41, 54-56, 62-64, and 66-67 and Column 4, lines 6-8, 37-39, and 45-47).

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ndebi et al. and Bliss as applied above in paragraph 9, and further in view of Shindo et al. (U.S. Patent 5,140,375).

Ndebi et al. and Bliss teach all of the limitations in claim 4 as applied above except for a teaching of forming additional coating layer(s) on the outer surface of the endless belt. It would have been obvious to one of ordinary skill in the art at the time the invention was made to form

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on the outer surface of the endless belt taught by Ndebi et al. as modified by Bliss a coated layer of fluorine resin as it was well known in the art to apply a coating of fluorine resin to the outer surface of an endless belt to reduce the friction resistance of the outer surface.

Shindo et al. disclose coatings, e.g. fluorine resin, applicable to the outer surface of an endless drive belt for reducing the friction resistance of the outer surface (Column 6, lines 51-59).

Response to Arguments

11. Applicant's arguments with respect to claims 2 and 4 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **John L. Goff** whose telephone number is **703-305-7481**. The examiner can normally be reached on M-Th (8 - 5) and alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Ball can be reached on 703-308-2058. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



John L. Goff



Michael W. Ball
Supervisory Patent Examiner
Technology Center 1700